

UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION

NETLIST, INC.,

Plaintiff,

VS.

MICRON TECHNOLOGY, INC.,  
MICRON SEMICONDUCTOR  
PRODUCTS INC., MICRON  
TECHNOLOGY TEXAS LLC,

Defendants.

Case No. 2:22-CV-203-JRG

## JURY TRIAL DEMANDED

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**PLAINTIFF NETLIST, INC.'S MOTION TO COMPEL PRODUCTION OF  
TECHNICAL DOCUMENTS**

For several months, Netlist has been seeking discovery related to the structure and operation of the products accused of infringement in this case: Micron's high-bandwidth memory ("HBM") products, DDR5 DIMMs, and DDR4 LRDIMMs. Micron represented that its November 21, 2022 production accompanying its invalidity contentions complied with the requirements of the Local Rules. Dkt. 49 at 1. Yet, Micron's P.R. 3-4(a) fell far short of the requirements of the Local Rules. *Id.* Specifically, Micron's technical production remains woefully deficient as to the following categories:

- (1) Third-party documents in Micron's possession, custody, or control, specifically third-party datasheets and other materials from Micron's component suppliers;
- (2) Documents relating to certain power-management and voltage regulation features on Micron's DDR5 DIMMs, including native CAD files; and
- (3) Documents relating to testing, evaluation, and simulation data for all accused products.<sup>1</sup>

Each of these categories of documents is critical to Netlist's infringement and damages theories for the patents-in-suit and should have been produced as part of Micron's P.R. 3-4(a) production. For example, as Netlist identified in its preliminary infringement contentions, third-party components such as the data buffers and registering clock driver ("RCD") on Micron's DDR4 LRDIMMs are relevant to Netlist's infringement theories for the '339 and '506 patent, both of which include timing aspects of a module with distributed data buffers under the control of a module controller such as an RCD. As another example, the power-management integrated circuits ("PMICs") on Micron's DDR5 DIMMs are key third-party components relevant to Netlist's infringement theory for the '918/'054 patents, both of which are directed to a memory module featuring an on-module PMIC. Similarly, documents such as native CAD files for Micron's DDR5 DIMMs are relevant to the power-management aspects of these accused products, specifically, how each component on the module is powered. Micron's testing, evaluation, and simulation documents across all of the accused

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<sup>1</sup> On March 16, 2023, Netlist moved to compel compliance with P.R. 3-4(a) by Defendants. Dkt. 49. The motion focused on Micron's violation of P.R. 3-4(a) for failure to produce technical documents and source code relating to Micron's HBMs. Micron has yet to correct these deficiencies.

products are relevant not only to use of the accused products but also to the importance of the claimed features (e.g., whether Micron could achieve the product requirements without the inventions).

These documents are necessary to “show the operation of any aspects or elements” of the accused products and were required to be produced at the P.R. 3-4(a) deadline. Not only did Micron fail to make sufficient production by the Court-ordered deadline on November 21, 2022, but Micron also failed to respond to Netlist’s repeated requests for production and meet and confer. When Micron finally met and conferred on these issues on May 8, 2023, it made vague commitments about remedying the above issues without providing any date certain. By May 11, 2023, Micron had yet to even commit to producing these documents, claiming [REDACTED]

Ex. 1 at 1. Given the fast-approaching deadlines for claim construction and expert reports, Netlist believes court intervention is necessary to resolve the remaining discovery disputes.

## **I. Background**

This case was filed on June 10, 2022. Netlist is asserting U.S. Patent Nos. 8,787,060 and 9,318,160 against Micron’s HBM products, U.S. Patent Nos. 11,016,918 and 11,232,054 against Micron’s DDR5 DIMMs, and U.S. Patent Nos. 10,949,339 and 10,860,506 against Micron’s DDR4 LRDIMMs. Micron contends that it relies on third parties to supply key components of its DDR5 DIMMs (the PMIC) and DDR4 LRDIMMs (the RCD and data buffers). Netlist served its preliminary infringement contentions identifying each of these products and the relevant functionalities on September 8, 2022. On November 10, 2022, Netlist provided a letter to Micron detailing the categories of relevant documents that are responsive to P.R. 3-4(a), including datasheets for the accused products and third-party components. Netlist’s letter provided specific information regarding the specific features Netlist’s requests were tied to.

On November 21, 2022, the deadline for Micron to serve its invalidity contentions and

produce documents under P.R. 3-4(a), Micron failed to produce sufficient technical documents as required by the Local Rules and detailed in Netlist's document production letter. Micron's production failed to include: third-party documents in Micron's possession, custody, or control related to the RCD, data buffer or PMIC components; documents regarding the DIMM-level voltage couplings in DDR5 DIMMs, such as native CAD files; and testing, evaluation, and simulation data for the accused products. Netlist has made repeated efforts to work with Micron to correct the deficiencies that permeate its technical production. Netlist detailed the relevant categories of documents in its November 10, 2022 letter and sent several discovery letters to Micron asking it to produce technical documents and source code materials relating to each of the patents-in-suit separately and repeatedly on January 18, January 26, January 27, March 8, March 16, March 24, April 5, and April 29, 2023. For example, in its April 29 letter, Netlist explained that Micron's production was deficient because:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Each time Micron either completely ignored Netlist's emails and letters, or failed to address the deficiencies raised therein. By way of example, Netlist asked Micron on January 27, 2023, to remedy the deficiencies in its third-party document production. [REDACTED]

Yet, since November 21, 2022, Micron has made only a single production: 82 public documents produced on April 5, 2023, as part of Micron's P.R. 4-2 claim construction disclosures. Since the beginning of this Action, Micron has produced in total 909 documents, nearly all of which are prior art or publicly available documents irrelevant to the operation of the accused products.

## II. Argument

**A. Micron Must Produce Technical Documents Under P.R. 3-4(a)**

Patent Local Rule 3-4(a) requires that “the party opposing a claim of patent infringement must produce or make available for inspection and copying: (a) Source code, specifications, schematics ... or other documentation sufficient to show the operation of any aspects or elements of an Accused Instrumentality identified by the patent claimant in its Patent L.R. 3-1(c) chart.”

i. Third-Party Technical Documents in Micron's Possession, Custody, or Control

Netlist has repeatedly made clear to Micron that third-party technical documents are relevant to the '339 and '506 patents (asserted against DDR4 LRDIMMs) and the '918 and '054 patents (asserted against DDR5 DIMMs). Micron's DDR4 LRDIMMs feature RCDs and data buffers produced by third parties; Micron's DDR5 DIMMs also feature PMICs supplied by third-party manufacturers. *See supra* at 1-2. Netlist's November 10, 2022 letter asked Micron to produce "studies, analyses, reports, or other documents in Micron's ***possession, control, or custody*** related to the operation of data buffers in Micron Accused DDR4 LRDIMMs," and made similar requests for Micron's DDR5 DIMMs. [REDACTED] Micron's 3-4(a) production omitted third-party technical documents regarding the data buffers, RCDs, or PMICs.

On January 27, 2023, Netlist sent a letter to Micron emphasizing this deficiency:

[REDACTED]

██████████ Micron responded on March 2, 2023, that ██████████

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██ Micron was silent on whether it had in its possession, custody, or control any other categories of third-party documents, including third-party datasheets. While Netlist has been diligently seeking production of these documents from third parties, this does not relieve Micron of its obligation to produce documents that it has in its possession, custody, or control, such as presentations, studies, evaluations, products specifications of the components or the finished products by Micron, its suppliers or its customers, in addition to any relevant technical documents that Micron received from its suppliers or customers.

ii. Documents Relating to Power Supply for Components on the DDR5 DIMMs

Netlist's November 10, 2022 letter also identified documents relating to the configuration of the PMICs in Micron's DDR5 DIMMs, for example, ██████████

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██ The claims of the '918 and '054 patents require specific couplings between the voltage converters and other components on the module. For example, claim 1 of the '918 patent requires "at least one circuit" that is "coupled to both the second regulated voltage and the fourth regulated voltage." '918 patent, cl. 1; '054 patent cl. 1 ("each component of the plurality of components coupled to at least one regulated voltage of the at least three regulated voltages"). Thus, the precise manner of coupling between the components on Micron's DDR5 DIMMs and the voltage rails from the PMIC is relevant to the asserted claims. To properly tailor its request to non-source code documents that should be in Micron's possession, ██████████

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iii. Documents Relating to Testing, Evaluation, and Simulation Data

To date, Micron has not produced any current documents related to testing, evaluation, or simulation data for the accused products, which Netlist has sought for several months. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Netlist expects that such documents would include data regarding the power savings, decreased voltage fluctuation, and other benefits (including benefits on yields) associated with the use of on-module PMICs on Micron's DDR5 DIMMs—a feature that is enabled by Netlist's '918 and '054 patents. [REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED] Netlist also requested similar documents for the DDR4 LRDIMMs regarding certain timing-related aspects of the data buffers on Micron's DDR4 LRDIMMs. [REDACTED]

[REDACTED] For example, Netlist expects that Micron possesses documents confirming that Micron utilizes the infringing MRD training feature when testing devices on automatic testing equipment (ATE), as relevant to the claims of the '506 patent. Dkt. 4, ¶ 74.

Similarly, Netlist requested testing and evaluation documents related to the signaling and load-reduction aspects of Micron's HBM products. [REDACTED]

[REDACTED]

[REDACTED] The load-reduction features of Micron's HBM products are relevant to Netlist's technical benefits and

infringement theories. For instance, claim 7 of the '060 patent expressly requires that the number of array dies in the first or second “group of array dies” be “*selected in consideration of a load* of the first die interconnect and a load of the second die interconnect so as to reduce a difference between a first load on the first data conduit and a second load on the second data conduit.” Other requests similarly target testing or evaluations regarding features that are relevant to Netlist’s claims, e.g., the “control die” signaling (RFP #70) or selective connection of TSVs (RFP #117).

iv. Micron’s Deficient Production of HBM Technical Documents

As Netlist noted in its motion regarding Micron’s violation of P.R. 3-4(a), Micron has only produced 14 documents regarding the design of its HBMs—ten of which are publicly available and two of which appear duplicative of each other. *See* Dkt. 49 at 3. In contrast, Micron produced over 50 documents on decade-old alleged prior art references or products. Micron has not updated its production since Netlist filed its motion on March 10. The handful of technical documents Micron has produced provide insufficient detail regarding key features of Micron’s HBMs relevant to the asserted claims, including the arrangement of the TSVs, the signaling operations of the control dies, the control of driver sizes, and the chip-selection mechanism in Micron’s HBM products. *Id.* at 5-6. Each of these features is important to infringement of the '060/'160 patents, as summarized below:

Key Technical Feature	Significance to the '060/'160 Patents
TSV arrangement in the accused HBMs.	'060 claim 1/'160 claim 1 require “die interconnect[s] in electrical communication with ... the group of array dies and not in electrical communication with the ... group of at least one array die.”
Signaling operations of the control dies in the accused HBMs.	'060 claim 1 requires that “the control die” comprise a “control circuit” that operates in “response to control signals received via one or more second terminals of the plurality of terminals”; <i>see also</i> '160 cl. 5.
Determination of driver size in the accused HBMs.	'160 claim 1 requires a “first driver” and a “second driver” with “the second driver size being different from the first driver size.”
Chip-selection signaling in the accused HBMs.	'060 claim 11 requires a “control die” comprising “chip select conduits for providing chip select signals to respective array dies.”

Dated: May 12, 2023

Respectfully submitted,

/s/ Jason Sheasby

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***Attorneys for Plaintiff Netlist, Inc.***

**CERTIFICATE OF SERVICE**

I hereby certify that, on May 12, 2023, a copy of the foregoing was served to all counsel of record.

/s/ Jason Sheasby  
Jason Sheasby

**CERTIFICATE OF AUTHORIZATION TO FILE UNDER SEAL**

I hereby certify that the foregoing document and exhibits attached hereto are authorized to be filed under seal pursuant to the Protective Order entered in this Case.

/s/ Jason Sheasby  
Jason Sheasby

**CERTIFICATE OF CONFERENCE**

I hereby certify that, on March 8, 2023, the lead and local counsel of each side met and conferred. The parties are at an impasse.

/s/ Jason Sheasby  
Jason Sheasby